# STUDY 240: PROTOCOL FOR MONITORING GROUND WATER IN SECTIONS WITH REPORTED DETECTIONS OUTSIDE EXISTING GROUND WATER PROTECTION AREAS

Attachment 3: Appendices J-R

# Appendix J. Monterey County

**Study Area**: This study will focus on Monterey County and will consist of two transects in central and northern portions of the county as shown in figure J-1. Table J-1 provides a summary of the planned numbers of wells and the four-section surveys included in the transect areas. Tables J-2 – J-3 present the detailed section list and wells to be sampled for each of the ten transects. Figures J-2 –J-3 show more detailed views of these transects. Up to 31 wells will be sampled for the planned transects in Monterey County.

Table J-1. Summary of Transect Lines in Monterey County

Transect Tab	Ref. Table/	Township, Range, Section		Potential  Number	Planned Number	Four-Section Surveys and Transect Notes
	Figure	Starting	Ending	Of Sections	Of Wells	Notes
01	J-2/ J-2	14S/03E-10	14S/02E-13	6	14	Bromacil verified in 14S/03E-10. Diuron unverified in 14S/02E-13.
02	J-3/ J-3	15S/04E-26	16S/05E-33	12	17	Z480 Diuron verified. Z481 Bromacil verified in one well and simazine and ACET verified in another. Z427 Simazine verified.
		<b>Total Wells</b>			31	

Figure J-1. Study 240 overview of transect areas in Monterey County. Detail figures for each transect are indicated by the large blue boxes.

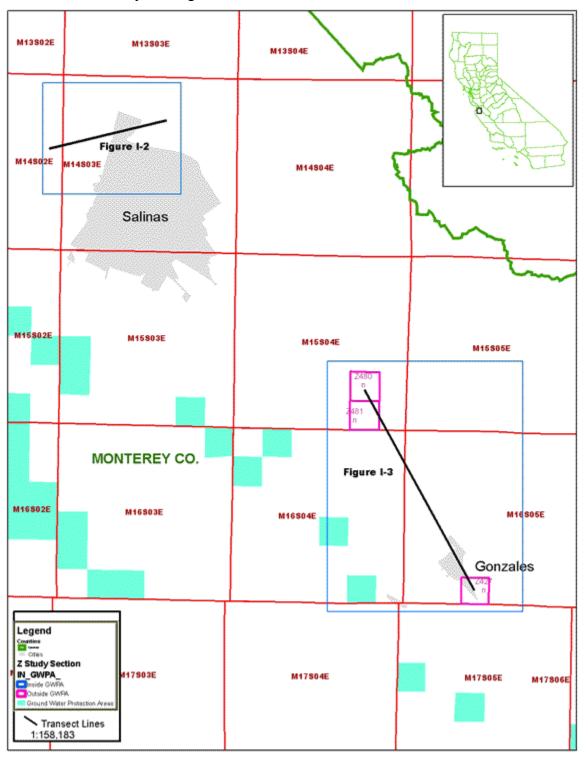


Table J-2 and Figure J-2 detail the Monterey 01 transect line north of Salinas. This line extends from 14S/03E-10 to 14S/02E-13. DPR has previously sampled five wells in the transect sections, the latest in 1995. Section 14S/03E-10 contains one well with a verified detection of bromacil. One other well was also sampled in 1995 but no additional pesticide residues reported. Section 14S/02E-13 contains one well with an unverified detection of diuron. Up to 14 wells may be sampled.

Table J-2. Monterey 01 Transect sections. See figure J-2

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
14S/03E-10	1995	Bromacil	2	One well with bromacil verified. Another 1995 sampled well with no residues.
14S/03E-09	1995		2	
14S/03E-08			1	
14S/03E-17			1	
14S/03E-18			2	May also sample in section 10S/15E-05.
14S/02E-13			2	
10S/15E-17	1992		2	May also sample in section 10S/15E-08
14S/02E-13	1995	Diuron	2	Diuron unverified.
<b>Total Wells</b>			14	

Figure J-2: Study 240 Monterey County transect 01.

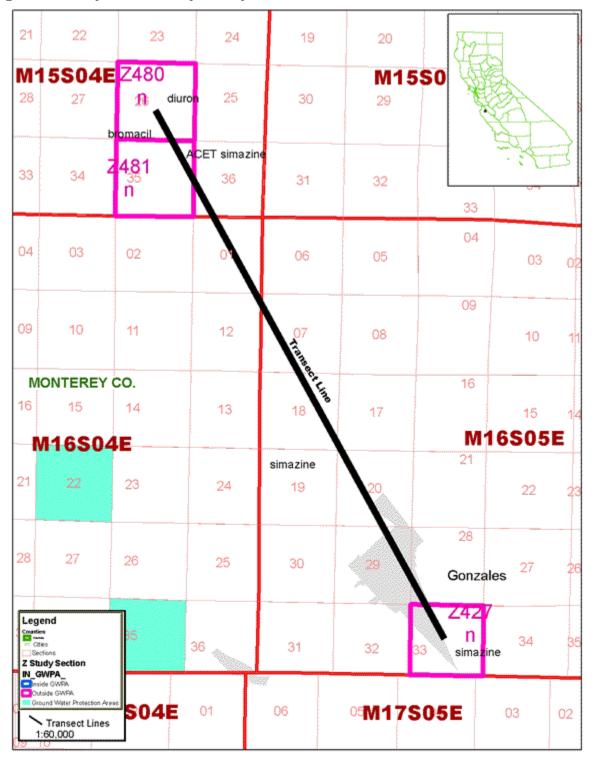
22 23	24	19	20	21	8-	
27 26	25	30	29	28		
M13S0	2E		M	13 <b>S</b> 03E	N.	
34 35	36	31	32	33	B	
03 02	01	06	05	04	03	02
10 11	12	07	08	09	10 brom	acil 11
MONTEREY CO		Tran	sect Line			<u> </u>
15 14	13 diuron	18	17	16	15	14
M14S0	2 <b>E</b>	M14S0	3E			
22 23	24		20	21	22	23
27 26	25	30	29	28 Salina	27 s	26
Legend Contine Contine Cottes Sections	36	31	32	33	34	35
Z Study Section IN_GWPA Poside GWFA Outside GWFA II Ground Water Protection Areas	2 <b>E</b> <sup>01</sup>	06/	05	04	03	)2
Transect Lines 1:60,000	12	M15S03	08	09	10	11

Table J-3 and Figure J-3 detail the Monterey 02 transect line through Gonzales. This line extends from 15S/04E-26 to 16S/05E-33. DPR has previously sampled 13 wells in the transect sections, the latest in 2004. Three four-section surveys for verified pesticide detections are included in this transect, as well as an unverified detection of simazine slightly south of the transect. Section 15S/04E-26 is the primary section for Z480 (diuron). Section 15S/04E-35 is the primary section for Z481 (bromacil, simazine, ACET) and contains 2 wells sampled in 2002 that contain pesticide residues. No further wells need be sampled. Section 16S/05E-19, just south of the transect has an unverified detection of simazine in one well sampled in 1991 and no residues reported in the four other wells sampled in the section, one as recently as 2004. Section 16S/05E-33 is the primary section for Z427 (simazine). Up to 17 wells may be sampled.

Table J-3. Monterey 02 Transect sections. See figure J-3

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
15S/04E-26	2004	Diuron	1	Z480 Diuron verified. Do not resample GW02/GW04 well.
15S/04E-35	2002	Bromacil, simazine, ACET	0	Z481 Bromacil, simazine, ACET verified. Residues found in two wells in 2002
15S/04E-36	2002		2	Do not resample the GW02 well.
16S/04E-01			2	
16S/04E-12			1	May also sample in section 16S/04E-06.
16S/05E-07			2	
16S/05E-18	1991		2	
16S/05E-17			1	16S/05E-19 has a well sampled in 2004. Do not resample.
16S/05E-20			2	
16S/05E-29			2	
16S/05E-28			1	
16S/05E-33	1998	Simazine	1	Z427 Simazine verified.
<b>Total Wells</b>			17	

Figure J-3: Study 240 Monterey County transect 02.



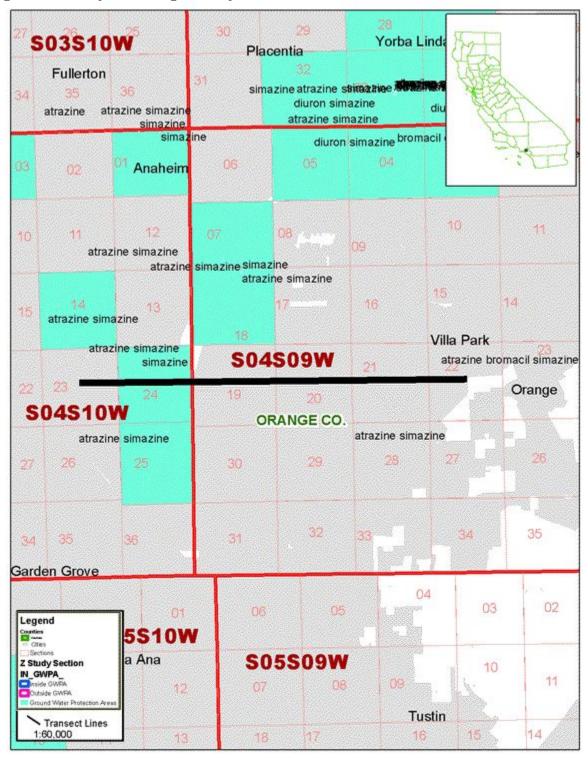
## Appendix K. Orange County

**Study Area**: The study will focus on Orange County and will consist of a single transect extending from section 04S/10W-23 eastward through section 04S/09W-22. This is an urban area. Two additional wells will be sampled in each section in the transect except as noted in Table K-1. Figure K-1 shows the transect line in Orange in Orange County. DPR has previously sampled eight wells in the transect sections, the latest in 1994. Section 04S/10W-23 contains a well with verified residues of atrazine and simazine and is adjacent to two GWPAs. Section 04S/10W-24 is a GWPA so no wells will be sampled there. Section 04S/09W-22 contains a well with verified residues of atrazine bromacil, and simazine. Up to 10 wells can be sampled for this transect.

Table K-1. Orange 01 Transect sections. See figure K-1

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
04S/10W-23	1993	Atrazine, simazine	2	Atrazine, simazine verified. One additional well sampled for AS92, no pesticides were detected in that well.
04S/10W-24	1990	Simazine	0	GWPA
04S/09W-19			2	
04S/09W-20			2	
04S/09W-21			2	
04S/09W-22	1994	Atrazine, bromacil, simazine	2	Atrazine, bromacil, simazine verified. Two additional wells sampled for Z218 and Z220, no pesticides were detected in those wells.
Total Wells			10	

Figure K-1. Study 240 Orange County transect 01.



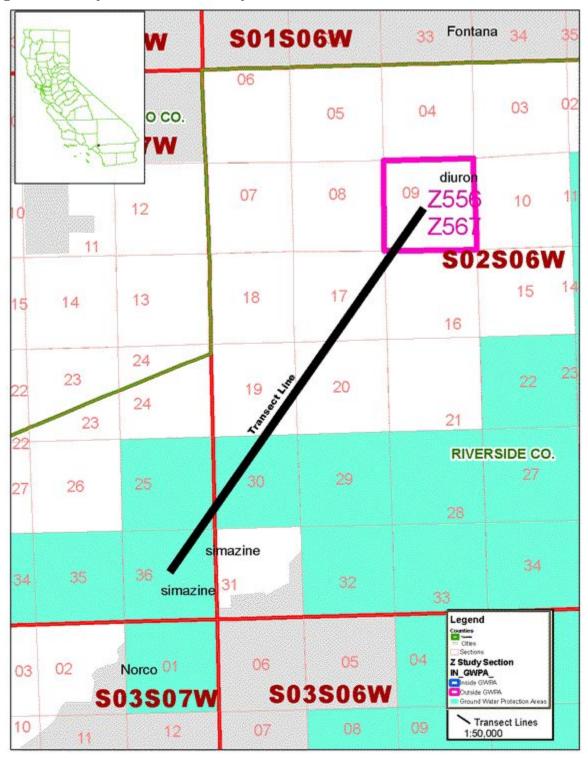
## Appendix L. Riverside County

**Study Area**: The study will focus on Riverside County and will consist of a single transect extending from section 02S/06W-09 southwestward through section 02S/07W-36. Two additional wells will be sampled in each section in the transect except as noted in Table L-1. Figure L-1 shows the transect line in just east of Norco in Riverside County. DPR has sampled six wells in the transect sections, all of which are in current GWPAs, the latest in 1993. Section 02S/06W-09 is the primary section for four-section surveys Z556 and Z567 (diuron). Section 02S07W-36 contains verified detections of simazine and is a GWPA. Two other sections in the transect are also GWPAs. No wells will be sampled in the GWPA sections. Up to eight wells may be sampled for this transect.

Table L-1. Riverside 01 Transect sections.

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
02S/06W-09		Diuron	2	Z566 Diuron unverified but reported in multiple years.
02S/06W-17			2	
02S/06W-20			2	
02S/06W-19			2	
08N/05E-30			0	GWPA
02S/07W-25	1993		0	GWPA
02S/07W-36	1993	Simazine	0	Simazine verified. GWPA.
Total Wells			8	

Figure L-1. Study 240 Riverside County transect 01.



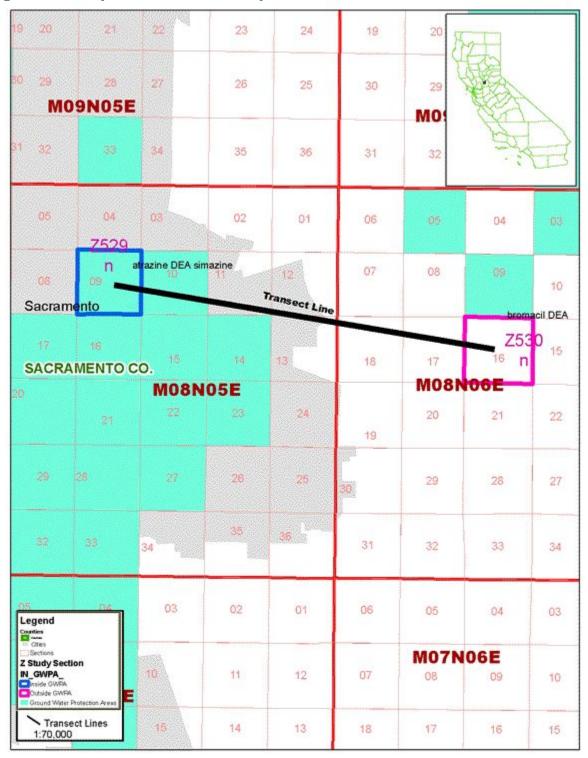
#### Appendix M. Sacramento County

**Study Area**: The study will focus on Sacramento County and will consist of a single transect extending from section 08N/05E-09 eastward through section 08N/06E-16. This is an urban area. Two additional wells will be sampled in each section in the transect except as noted in Table M-1. Figure M-1 shows the transect line in just east of Sacramento in Sacramento County. DPR has not sampled any wells in the transect sections. Section 08N/05E-09 contains an unverified report of atrazine, simazine and DEA residues and is a GWPA. Section 08N/06E-16 contains an unverified report of bromacil and DEA. The closest GWPA is adjacent to the northern anchor of the transect. No wells will be sampled in the GWPA sections. Up to ten wells may be sampled for this transect.

Table M-1. Sacramento 01 Transect sections.

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
08N/05E-09		Atrazine, simazine, DEA	0	Atrazine, simazine, DEA unverified. GWPA
08N/05E-10			0	GWPA
08N/05E-11			2	
08N/05E-12			1	
08N/05E-13			1	
08N/06E-18			2	
08N/06E-17			2	
08N/06E-16	,	Bromacil, DEA	2	Bromacil, DEA unverified. Adjacent to GWPA.
Total Wells			10	

Figure M-1. Study 240 Sacramento County transect 01.



#### Appendix N. San Bernardino County

**Study Area**: This study will focus on San Bernardino County and will consist of three transects in the south-central portions of the county as shown in figure N-1. Table N-1 provides a summary of the planned numbers of wells and the four-section surveys included in the transect areas. Tables N-2 – N-4 present the detailed section list and wells to be sampled for each of the ten transects. Figures N-2 –N-3 show more detailed views of these transects. Up to 20 wells will be sampled for the planned transects in San Bernardino County. The numbers of potential wells listed for the individual transects were based on the assumption that the transects are done in order and the wells in overlapping sections are counted in the lowest numbered transect to avoid double counting.

Table N-1. Summary of Transect Lines in San Bernardino County

Bernardino T	Ref. Table/	Township, Range, Section		Potential - Number	Planned Number	Four-Section Surveys and Transect Notes
	Figure	Starting	Ending	Of Sections	Of Wells	Notes
01	N-2/ N-2	01S/04W-32	01S/04W-23	6	8	Diuron and simazine verified in 01S/04W-32. Simazine verified in 01S/04W-23. Overlaps San Bernardino 02.
02	N-3/ N-2	01S/04W-23	01S/03W-32	6	8	Simazine verified in 01S/04W-23. Atrazine, diuron, simazine, ACET, DACT verified in 01S/03W-32. Overlaps San Bernardino 01.
03	N-4/ N-3	01S/02W-21	01S/02W-34	4	4	Z562 Atrazine unverified. Z563 Atrazine unverified.
		Total Wells			20	

Figure N-1. Study 240 overview of transect areas in San Bernardino County. Detail figures for each transect are indicated by the large blue boxes.

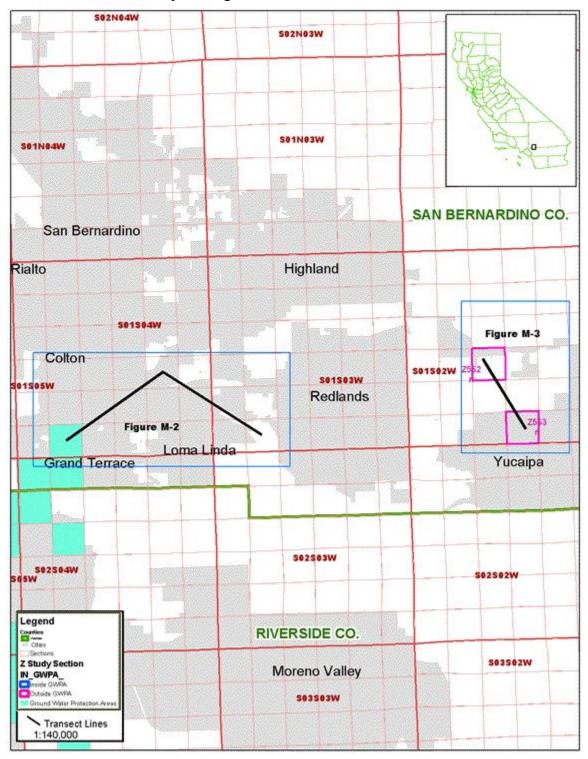


Table N-2 and Figure N-2 detail the San Bernardino 01 transect line south of San Bernardino. This line extends from 01S/04W-32 to 01S/04W-23. This is an urban area. DPR has previously sampled five wells in the transect sections, the latest in 1994. Section 01S/04W-32 contains one well with verified detections of diuron and simazine and is a GWPA. Section 01S/04W-23 contains one well with a verified detection of simazine and ACET as well as an unverified detection of simazine. Up to eight wells may be sampled.

Table N-2. San Bernardino 01 Transect sections. See figure N-2

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
01S/04W-32	1994	Diuron, simazine	0	Diuron and simazine verified. GWPA.
01S/04W-33			1	
01S/04W-28			2	
01S/04W-27	1994		2	
01S/04W-22			1	May also sample in section 01S/04W-26.
01S/04W-23	1994	Simazine, ACET	2	Simazine, ACET verified. Overlaps San Bernardino 02.
Total Wells			8	

Table N-3 and Figure N-2 detail the San Bernardino 02 transect line south of Redlands. This line extends from 01S/04W-23 to 01S/03W-32. This is an urban area. DPR has previously sampled four wells in the transect sections, the latest in 1994. Section 01S/04W-23 contains one well with verified detections of simazine and ACET. If two wells are sampled here for San Bernardino 01, no further wells need be sampled. Section 01S/03W-32 contains one well with a verified detection of atrazine, diuron, simazine, ACET and DACT. Up to eight wells may be sampled for this transect.

Table N-3. San Bernardino 02 Transect sections. See figure N-2

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
01S/04W-23	1994	Simazine, ACET	0	Simazine and ACET verified. Overlaps San Bernardino 01.
01S/04W-24			1	
01S/04W-25			2	
01S/03W-30			2	
01S/03W-31			1	May also sample in section 01S/03W-29.
01S/03W-32	1994	Atrazine, diuron, simazine, ACET, DACT	2	Atrazine, diuron, simazine, ACET, DACT verified.
Total Wells			8	

04 12 11 10 San Bernardino 13 Redland 14 15 17 18 S01S04W ACET simazine SAN BERNARDINO CO. 23 19 simazine San Bernardino 02 San Bernardino 01 a sect Line Colton ACET a diuron simazine Loma Linda **Grand Terrace** diuron simazine atrazine diuron simazine atrazine simazine 05 06 01 04 02 04 09 08 07 12 09 10 11 08 08 09 RIVERSIDE CO. 16 simazine 17 18 13 15 14 16 Legend S02S03W Counties 21 20 Z Study Section 22 24 IN\_GWPA\_ neide GWPA Outside GWPA Moreno Valley Ground Water Protection Area Transect Lines 30 29 26 27 1:60,000

Figure N-2. Study 240 San Bernardino County transects 01 and 02.

Table N-4 and Figure N-3 detail the San Bernardino 03 transect line southeast of Redlands. This line extends from 01S/02W-21 to 01S/02W-34. DPR has not previously sampled any wells in the transect sections. Section 01S/02W-21 is the primary section for four-section survey Z562 (unverified atrazine). Section 01S/02W-34 is the primary section for four-section survey Z563 (unverified atrazine). Up to four wells may be sampled for this transect.

Table N-4. San Bernardino 03 Transect sections. See figure N-3

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
01S/02W-21		Atrazine	2	Z562 Atrazine unverified.
01S/02W-28			1	
01S/02W-27			1	
01S/02W-34		Atrazine	2	Z563 Atrazine unverified
<b>Total Wells</b>			4	

Highland Redlands atrazine **503W** S01S02W San Bernardino 03 SAN BERNARDINO CO. at<mark>r</mark>azine<sup>34</sup> S02S02W Yucaipa Legend Z Study Section IN\_GWPA\_ neide GWPA Outside GWPA Ground Water Protection Are Transect Lines RIVERSIDE CO.5 

Figure N-3. Study 240 San Bernardino County transect 03.

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## Appendix O. Solano County

**Study Area**: This study will focus on Solano County and will consist of three transects in the central portions of the county as shown in figure O-1. Table O-1 provides a summary of the planned numbers of wells and the four-section surveys included in the transect areas. Tables O-2 – O-4 present the detailed section list and wells to be sampled for each of the ten transects. Figures O-2 –O-3 show more detailed views of these transects. Up to 20 wells will be sampled for the planned transects in Solano County. The numbers of potential wells listed for the individual transects were based on the assumption that the transects are done in order and the wells in overlapping sections are counted in the lowest numbered transect to avoid double counting.

Table O-1. Summary of Transect Lines in Solano County

Solano Transect Number	Ref. Table/	Township, Range, Section		Potential - Number	Planned Number	Four-Section Surveys and Transect Notes
	Figure	Starting	Ending	Of Sections	Of Wells	
01	O-2/ O-2	07N/01E-10	07N/01E-25	6	9	Atrazine, diuron, DEA and DACT verified in 07N/01E-10. Z454 DEA verified in 07N/01E-25. Overlaps Solano 02.
02	O-3/ O-2	07N/01E-25	06N/01E-22	8	10	Z454 DEA verified in 07N/01E-25. Z544 atrazine, DEA verified in 06N/01E-22. Overlaps Solano 01 and 03.
03	O-4/ O-2	06N/01E-22	06N/01W-36	4	10	Z544 Atrazine, DEA verified in 06N/01E-22. Atrazine, hexazinone, prometon, DEA verified in 06N/01W-36 Overlaps Solano 02.
		Total Wells			29	

Table O-2 and Figure O-2 detail the Solano 01 transect line through Dixon. This line extends from 07N/01E-10 to 07N/01E-25. DPR has previously sampled six wells in the transect sections, the latest in 2001. This is largely an urban area. Section 07N/01E-10 contains one well with verified detections of atrazine, DEA and DACT and a second well with atrazine, DEA and diuron. This section is adjacent to a GWPA to the northeast and is proposed to become a GWPA. No further wells need be sampled in this section. Section 07N/01E-25 is the primary section for four-section survey Z454 (DEA). This section overlaps transect Solano 02. Up to nine wells may be sampled.

Table O-2. Solano 01 Transect sections. See figure O-2

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
07N/01E-10	2001	Atrazine, diuron, DEA, DACT	0	Already proposed as a GWPA.
07N/01E-15			2	May also sample a well in 07N/01E-11
07N/01E-14			2	
07N/01E-23			2	
07N/01E-24			1	May also sample in section 01S/04W-26.
07N/01E-25	2001	DEA	2	Z454 DEA verified. Overlaps with Solano 02.
Total Wells			9	

Table O-3 and Figure O-2 detail the Solano 02 transect line south of Dixon. This line extends from 07N/01E-25 to 06N/01E-22. DPR has previously sampled four wells in the transect sections, the latest in 2003. Section 07N/01E-25 is the primary section for four-section survey Z454 (DEA). This section overlaps transect Solano 02. If two wells are sampled here for Solano 01, no further wells need be sampled. Section 06N/01E-22 is the primary section for four-section survey Z544 (atrazine and DEA). This section overlaps transect Solano 03. Up to 10 wells may be sampled for this transect.

Table O-3. Solano 02 Transect sections. See figure O-2

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
07N/01E-25	2001	Simazine, ACET	0	Z454 DEA verified. Overlaps with Solano 01.
07N/01E-36			2	
06N/01E-01			1	
06N/01E-02			2	
06N/01E-11			2	
06N/01E-14			1	
06N/01E-15			1	
06N/01E-22	2003	Atrazine, DEA	1	Z544 Atrazine, DEA verified. Do not resample GW03 well. Overlaps Solano 03.
Total Wells			10	

Table O-3 and Figure O-2 detail the Solano 03 transect line east of Vacaville. This line extends from 06N/01E-22 to 06N/01W-36. DPR has previously sampled nine wells in the transect sections, the latest in 2003. Section 06N/01E-22 is the primary section for four-section survey Z544 (atrazine and DEA). This section overlaps transect Solano 02. If one well is sampled here for Solano 02, no further wells need be sampled. Section 06N/01W-36 contains one well with verified detections of atrazine, hexazinone, prometon, and DEA. Three other wells were sampled in this section in 1995 by DPR and none had any reported residues. Up to 10 wells may be sampled for this transect.

Table O-3. Solano 03 Transect sections. See figure O-2

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
06N/01E-22	2003	Atrazine, DEA	0	Z544 Atrazine, DEA verified. Do not resample GW03 well. Overlaps Solano 02.
06N/01E-21			1	
06N/01E-28	1997		2	
06N/01E-29	1997		2	
06N/01E-30			1	May also sample in section 06N/01E-32.
06N/01E-31	1995		2	
06N/01W-36	1995	Atrazine, DEA hexazinone, prometon	2	Atrazine, DEA hexazinone, and prometon verified.
<b>Total Wells</b>			10	

atrazine atrazine M07N01E M07N01W at DIXODEA DACT Solano 01 ACET atrazine DEA DACT diuron ACET atrazine DEA diuron hexazinone atrazine DEA Solano 02 ACET DACT diuron norflurazon SOLANO CO. acaville ACET atrazine DEA M06N02E atrazini DEDET atrazine DEA Legend Solano 03 atrazine DE zinone prometon Z Study Section MO6NOTE M06N01W IN\_GWPA\_ nside GWPA
Cutside GWPA Ground Water Protection Areas M05N01W M05N01E Transect Lines 

Figure O-2. Study 240 Solano County transects 01, 02 and 03.

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## Appendix P. Stanislaus County.

**Study Area**: This study will focus on Stanislaus County and will consist of two transects in the south-central portions of the county as shown in figure P-1. Table P-1 provides a summary of the planned numbers of wells and the four-section surveys included in the transect areas. Tables P-2 – P-3 present the detailed section list and wells to be sampled for both of the transects. Figures P-2 –P-3 show more detailed views of these transects. Up to 27 wells will be sampled for the planned transects in Stanislaus County.

Table P-1. Summary of Transect Lines in Stanislaus County. See figure P-1

Stanislaus Ref. Township, Range, Section Transect Table/		inge, Section	Potential  Number	Planned Number	Four-Section Surveys and Transect Notes	
Number	Figure	Starting	Ending	Of Sections	Of Wells	
01	P-2/ P-2	03S/11E-30	04S/11E-31	4	7	Z468 Atrazine, ACET and DEA verified Southern sections in transect are GWPAs.
02	P-3/ P-3	06S/08E-06	07S/09E-06	4	20	Diuron and simazine verified in section 06S/08E-06. Prometon unverified in section 06S/08E-23. Z456 Diuron verified.
		<b>Total Wells</b>			27	

Figure P-1. Study 240 overview of transect areas in Stanislaus County. Detail figures for each transect are indicated by the large blue boxes.

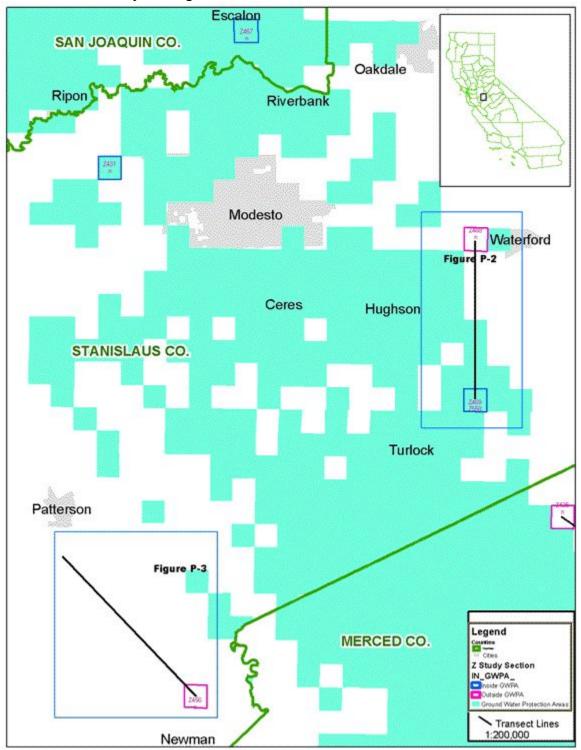


Table P-2 and Figure P-2 detail the Stanislaus 01 transect line west of Waterford. This line extends from 03S/11E-30 to 04S/11E-31. DPR has previously sampled one well in the non-GWPA transect sections, the latest in 2002. Section 03S/11E-30 is the primary section for four-section survey Z468 and contains one well with verified detections of atrazine, DEA and DACT. This section is adjacent to two GWPAs. Sections 04S/11E-18, 04S/11E-19, 04S/11E-30, and 04S/11E-31 are already GWPAs and will not be sampled.

Table P-2. Stanislaus 01 Transect sections. See figure P-2

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
03S/11E-30	2002	Atrazine, DEA, DACT	1	Z468 Atrazine, ACET and DEA verified. Do not resample GW02 well.
03S/11E-31			2	
04S/11E-06			2	
04S/11E-07			2	,
<b>Total Wells</b>			7	

Figure P-2. Study 240 Stanislaus County transects 01.

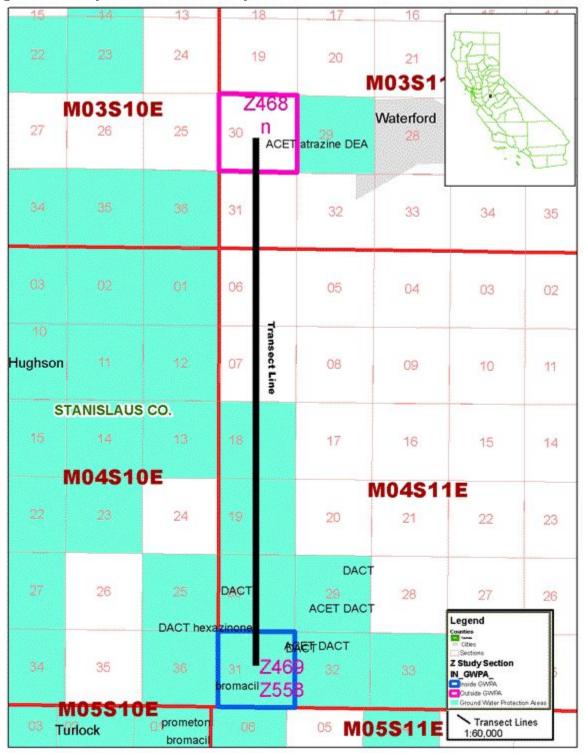
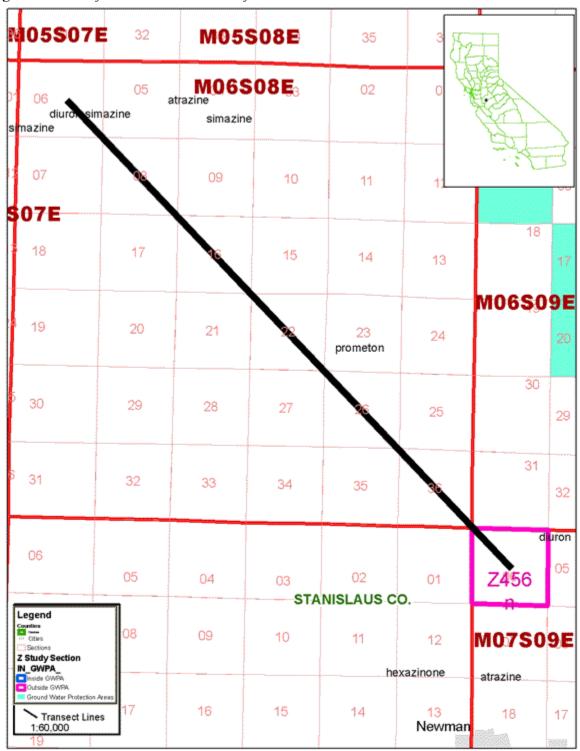


Table P-3 and Figure P-3 detail the Stanislaus 02 transect line from Patterson to Newman. This line extends from 06S/08E-06 to 07S/09E-06. DPR has previously sampled eleven wells in the transect sections, the latest in 2001. Section 06S/08E-06 contains a well with an unverified detection of prometon. Section 06N/01E-22 is the primary section for four-section survey Z456 (diuron).

Table P-3. Stanislaus 02 Transect sections. See figure P-3

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
06S/08E-06	1992	Diuron, simazine	2	Diuron and simazine verified
06S/08E-05	1992	Atrazine	1	Atrazine unverified. May sample in section 06S/08E-07.
06S/08E-08			2	
06S/08E-09			1	May sample in 06S/08E-17.
06S/08E-16			2	
06S/08E-15			1	May sample in 06S/08E-21
06S/08E-22			2	
06S/08E-23	2001	Prometon	1	Prometon unverified. May sample in section 06S/08E-27.
06S/08E-26	2001		2	
06S/08E-25	2001		1	May also sample in section 06S/08E-35
06S/08E-36	2001		2	
06S/09E-31	2001		1	May sample in section 07S/08E-01.
07S/09E-06	2001		2	Z456 Diuron verified.
Total Wells			20	

Figure P-3. Study 240 Stanislaus County transect 02.



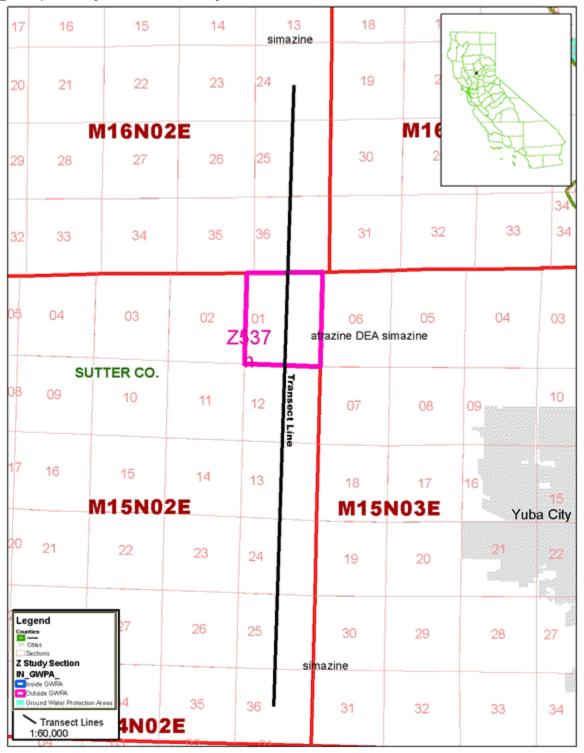
# Appendix Q. Sutter County

**Study Area**: This study will focus on Sutter County and will consist of a single extended transect in the west of Yuba City. Table Q-1 and figure Q-1 provides a details of the transect area. This line extends from 16N/02E-24 to 15N/02E-36. DPR has previously sampled four wells in the transect sections, the latest in 1996. Section 16N/02E-24 contains a well with a verified detection of simazine. Section 15N/02E-01 is the primary section for four-section survey Z537 (unverified atrazine, simazine and DEA). Section 15N/02E-36 contains a well with a verified detection of simazine. Up to 18 wells may be sampled for this transect.

Table Q-1. Sutter01 Transect sections. See figure Q-1

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
16N/02E-24	1995	Simazine	2	Simazine unverified
16N/02E-25			2	
16N/02E-36			2	
15N/02E-01		Atrazine, DEA, simazine	2	Z537 Atrazine, simazine and DEA unverified. Atrazine and DEA found at very low levels (<0.05ppb) by USGS.
15N/02E-12			2	
15N/02E-13			2	
15N/02E-24			2	
15N/02E-25			2	
15N/02E-36	1994		2	Z368 Diuron, simazine and ACET verified.
Total Wells			18	

Figure Q-1. Study 240 Sutter County transect 01.



# Appendix R. Tulare County.

**Study Area**: This study will focus on Tulare County and will consist of five transects in the western half the county, including a transect that extends into Kings County, as shown in figure R-1. Table R-1 provides a summary of the planned numbers of wells and the four-section surveys included in the transect areas. Tables R-2 – R-6 present the detailed section list and wells to be sampled for each of the five transects. Figures R-2 –R-6 show more detailed views of these transects. Up to 62 wells will be sampled for the planned transects in Tulare County.

Table R-1. Summary of Transect Lines in Tulare County

Tulare Ref. Transect Table/	Township, Range, Section		Potential  Number	Planned Number	Four-Section Surveys and Transect Notes	
Number	Figure	Starting	Ending	Of Sections	Of Wells	110003
01	R-2/ R-2	16S/26E-07	16S/26E-35	8	14	Z367 Diuron, simazine and ACET verified. Z368 Diuron, simazine and ACET verified.
02	R-3/ R-3	19S/22E-22	19S/23E-34	9	16	Starts in Kings Co. and has a dogleg in Tulare Co. Z458 Simazine and ACET verified. Z169 Simazine unverified.
03	R-4/ R-4	19S/25E-26	20S/24E-12	9	10	Includes GWPA sections. Z387 Bromacil verified. Z569 Diuron and ACET verified
04	R-5/ R-5	22S/27E-08	22S/26E-33	9	10	Includes GWPA sections. Z570 Bromacil verified. Diuron verified in section 22S/26E-33
05	R-6/ R-6	24S/27E-01	24S/27E-35	6	12	Z380 Bromacil, diuron and ACET verified. Z381 Bromacil, diuron, simazine and ACET verified. Overlaps Kern 01.
		<b>Total Wells</b>			62	

Figure R-1. Study 240 overview of transect areas in Tulare County. Detail figures for each transect are indicated by the large blue boxes.

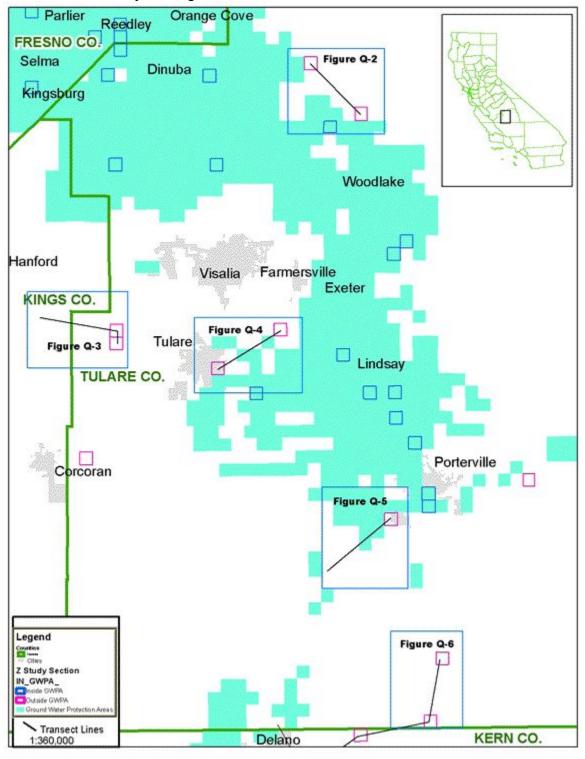


Table R-2 and Figure R-2 detail the Tulare 01 transect line north of Woodlake. This line extends from 16S/26E-07 to 16S/26E-35. DPR has previously sampled two wells in the transect sections, the latest in 1994. Section 16S/26E-07 is the primary section for four-section survey Z367 (diuron, simazine and ACET) and is adjacent to GWPAs to the west. Section 16S/26E-35 is the primary section for four-section survey Z368 (diuron, simazine and ACET) and is adjacent to GWPAs to the south.

Table R-2. Tulare 01 Transect sections. See figure R-2

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
16S/26E-07	1994	Diuron, simazine, ACET	2	Z367 Diuron, simazine and ACET verified
16S/26E-18		Atrazine	1	May sample in 16S/26E-08.
16S/26E-17			2	
16S/26E-20			1	May sample in 16S/26E-16.
16S/26E-21			2	
16S/26E-28			1	May sample in 16S/26E-22
16S/26E-27			2	
16S/26E-34			1	May sample in section 16S/26E-26.
16S/26E-35	1994		2	Z368 Diuron, simazine and ACET verified.
<b>Total Wells</b>			14	

Figure R-2. Study 240 Tulare County transect 01.

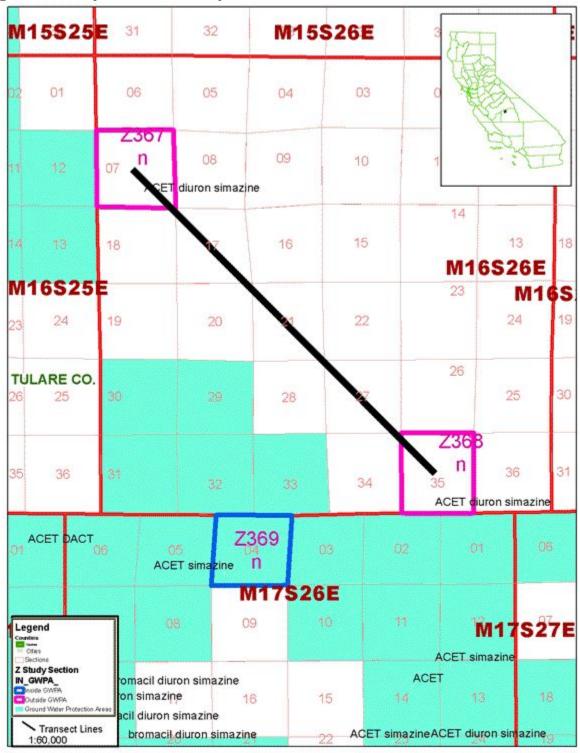


Table R-3 and Figure R-3 detail the Tulare 02 transect line west of Tulare. This line extends from 19S/22E-22 in Kings County to 19S/23E-34 in Tulare County. DPR has previously sampled three wells in the transect sections, the latest in 2001. Section 19S/22E-22 has a well with a verified detection of atrazine. Section 19S/23E-27 is the primary section for four-section survey Z458 (simazine and ACET). Section 19S/23E-34 is the primary section for four-section survey Z169 (simazine unverified). Up to 16 wells may be sampled for this transect.

Table R-3. Tulare 02 Transect sections. See figure R-3

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
19S/22E-22	1992	Atrazine	2	Diuron, simazine and ACET verified
19S/22E-23			2	
19S/22E-24			2	
19S/22E-19			1	
19S/22E-30			1	
19S/22E-29			2	May sample in 19S/22E-20
19S/22E-28			2	
19S/22E-27	2001		2	Z458 Simazine and ACET verified.
19S/22E-34	1993		2	Z169 Simazine unverified.
<b>Total Wells</b>			16	

Figure R-3. Study 240 Tulare County transect 02.

33	34	3500	36	31	403200	33	-24	20
	03	02	01	06	05 05	0		
09	10	11	12	07	119 <b>S23</b> I	0		7
16	M19	9 <b>522E</b> 14	13	18	17	16	15	14
21 22	atrazine	2KINGS		19 Trans	20	21	22	23
28 27		26	25	Transect Line	29	28	27 SET simaz <b>Z4</b>	•
33 34		35	36	31	32	33 sim	azine <b>Z</b> 4 69	35
04	03	02	01	06	TULARE C	<b>0.</b> 04	03	02
09 Legend	10	11 )S22E	12	07	08 <b>M20</b>	09 <b>S23E</b>	10	11
Counties To Cities To Sections Z Study IN GWP Conside G	Section A_ WPA GWPA	14	13	18	17	16	15	14
-	Moter Protection Aceas ansect Lines .000	23	24	19	20	21	22	23

Table R-4 and Figure R-4 detail the Tulare 03 transect line east of Tulare. This line extends from 19S/25E-26 to 20S/24E-12 and includes GWPA sections. DPR has previously sampled five wells in the transect sections, the latest in 2004. Section 19S/25E-26 is the primary section for four-section survey Z387 (bromacil) and is adjacent to a GWPA to the southwest. Sections 19S/25E-34, 20S/25E-04 and 20S/25E-04 are GWPAs. No wells will be sampled there. Section 20S/24E-12 is the primary section for four-section survey Z569 (diuron and ACET) and is adjacent to GWPAs to the south. Do not resample the study 226 well. Up to 10 wells can be sampled for this transect.

Table R-4. Tulare 03 Transect sections. See figure R-4

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
19S/25E-26	1994	Bromacil	2	Z387 Bromacil verified
19S/25E-27			1	
19S/25E-34	1989		0	GWPA
19S/25E-33			2	May sample in 16S/26E-16.
19S/25E-32			1	
20S/25E-04			0	GWPA
20S/25E-05			0	GWPA
20S/25E-06			1	
20S/25E-07			1	
20S/24E-12	2004	Diuron, ACET	2	Z569 Diuron and ACET verified. Do not resample study 226 well.
Total Wells			10	

Figure R-4. Study 240 Tulare County transect 03.

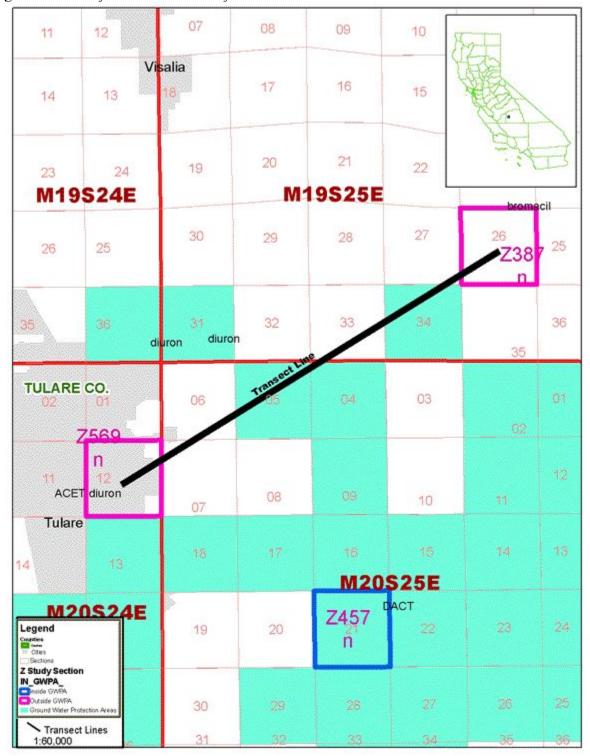


Table R-5 and Figure R-5 detail the Tulare 04 transect line southwest of Porterville. This line extends from 22S/27E-08 to 22S/26E-33 and includes GWPA sections. DPR has previously sampled 17 wells in the transect sections, the latest in 2004. Section 22S/27E-08 is the primary section for four-section survey Z570 (diuron and simazine) and is adjacent to GWPAs on three sides. Do not resample the study 226 well. Sections 22S/27E-07, 22S/27E-18, 22S/26E-13 and 22S/26E-24 are GWPAs. No wells will be sampled there. Section 22S/26E-33 has a well with a verified detection of diuron (and is adjacent to GWPAs to the west. Up to 10 wells can be sampled for this transect.

Table R-5. Tulare 04 Transect sections. See figure R-5

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
19S/25E-26	1994	Bromacil	2	Z387 Bromacil verified
19S/25E-27			1	
19S/25E-34	1989		0	GWPA
19S/25E-33			2	May sample in 16S/26E-16.
19S/25E-32			1	
20S/25E-04			0	GWPA
20S/25E-05			0	GWPA
20S/25E-06			1	
20S/25E-07			1	
20S/24E-12	2004	Diuron, ACET	2	Z569 Diuron and ACET verified. Do not resample study 226 well.
Total Wells			10	

Figure R-5. Study 240 Tulare County transect 04.

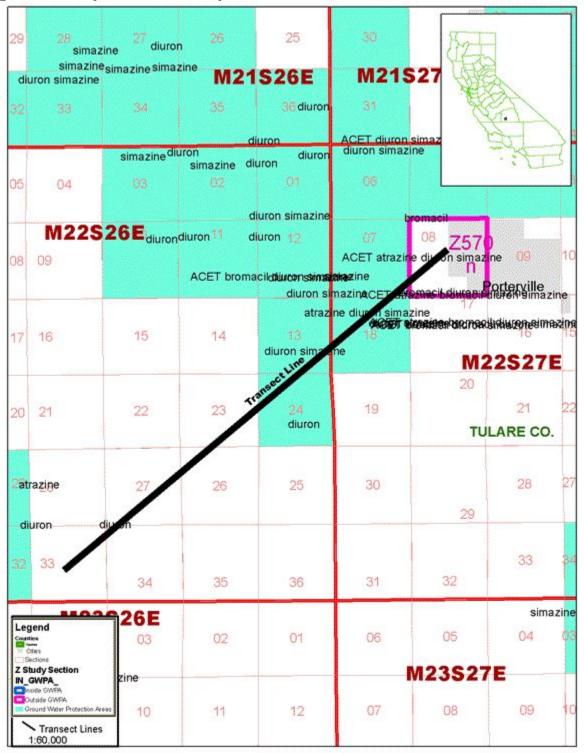


Table R-6 and Figure R-6 detail the Tulare 05 transect line southwest of Porterville. This line extends from 24S/27E-01 to 24S/27E-35. DPR has previously sampled two wells in the transect sections, the latest in 2004. Section 24S/27E-01 is the primary section for four-section survey Z380 (bromacil, diuron and ACET). Section 24S/27E-35 is the primary section for four-section survey Z381 (bromacil, diuron, simazine and ACET) and overlaps Kern County transect 01. Check to see if wells have already been sampled for that transect in this section. Up to 12 wells can be sampled for this transect.

Table R-6. Tulare 05 Transect sections. See figure R-6

Township, Range, Section	Last Year Sampled for Triazines	Previously Detected Pesticides	Planned Wells to Sample	Sampling Notes
24S/27E-01	1994	Bromacil, diuron, ACET	2	Z380 Bromacil, diuron and ACET verified
24S/27E-12			2	
24S/27E-13			1	
24S/27E-14			1	
24S/27E-23			2	
24S/27E-26			2	
24S/27E-35	2004	Diuron, ACET	2	Z380 Bromacil, diuron, simazine and ACET verified. Overlaps Kern 01.
Total Wells			12	

Figure R-6. Study 240 Tulare County transect 05.

	4=	40	46	4.0	40		
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19	20	21	22	23	24		A
		M23	S27E			1 7	
30	29	28	27	26	25	-	
31	32	33	34	35	36	31	32
06 0	05	₀M24	4S27E	02	Z380 <sup>A</sup>	CET bromacil diuron	
	00	024			ıı"n	Ů.	
						TULAR	E CO.
07	08	09	10	11		07	08
					12		
18	17	16	15	Transect Line		18	17
					13	M245	28E
19	20	21	22	23		19	20
					24		
Legend		28	27	26		30	29
Cities Sections					25		
Z Study Se IN_GWPA_ Outside GWPI Outside GW III Octound Wilst		33	34	ZASET br	omacil diuron s	imazine <sub>1</sub>	32
	sect Lines	B-0-5			36	M25S2	8E 0
1:60,00	(	<sup>14</sup> M25	<b>327E</b> KE	RN CO.	01 0	MIZOOZ	OE